



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,393	10/30/2003	Thomas Holtzman Williams		7468
24050	7590	06/08/2009	EXAMINER	
THOMAS H WILLIAMS 6423 FAIRWAYS DRIVE LONGMONT, CO 80503				CORRIELUS, JEAN B
ART UNIT		PAPER NUMBER		
2611				
		MAIL DATE		DELIVERY MODE
		06/08/2009		PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/697,393	WILLIAMS, THOMAS HOLTZMAN	
	Examiner	Art Unit	
	Jean B. Corrielus	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 03 April 2009.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 9-14 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) _____ is/are rejected.
 7) Claim(s) 9-14 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 4/3/09 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Drawings

1. The drawings are objected to as follow: in fig. 5, Box 522 recites “convert time domain data back to frequency domain” however, it is noted that the signal as transmitted see output of “Box 510” is in the frequency domain not in time domain. Therefore, the conversion box 522 in fig. 5 is unclear given the fact that the signal as transmitted is in frequency domain. In addition in Box 522, “time”, “data” should be deleted. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings were received on 4/3/09. These drawings are acceptable. However, after further consideration, the drawings are further objected to for the reasons set forth above.

Specification

3. The disclosure is objected to because of the following informalities: page 1 first full paragraph, "60/422308" should be replaced by "60/422,308". Page 4, line 11, "rows" should be replaced by "columns". Page 13, last line, "rows" should be replaced by "columns". The specification page 12, lines 10-12, "inverse" should be deleted, "IFFT" should be replaced by "FFT" and "DIFT" should be replaced by "DFT", and page 13, lines 7-8, "IFFT" and DIFT should be replaced by "FFT" and "DFT", respectively, because as known in the art, FFT/DFT provides a frequency domain signal. Page 13, lines 15-16 recites that the data is converted from time domain into frequency domain however lines 6-12 already recite that the data is transmitted in frequency domain. Therefore, box 522 does not seem to be required since the data is already in frequency domain. Appropriate correction is required.

Claim Objections

4. Claims 9-14 are objected to because of the following informalities:
In both claims 9 and 10, lines 3, remove the line, only the "comprising" needs to be shown by "strike-through".
Claim 9, lines 15-16, "and excised corrupt symbols" should be deleted so as to be consistent with the specification; line 17, "excised" should be deleted; line 17 after

“symbols”, “and the transmission matrix” should be inserted so as to be consistent with the specification.

claim 10, line 8, “an inverse” should be replaced by “a”, line 15, “an inverse” should be inserted before “Fourier”, because as known in the art “a Fourier transform” produces a frequency domain signal; lines 15-16 recites converting to a frequency domain the symbol sequence. However, it is noted that per the limitation in lines 8-9, the signal is already in frequency domain. Claim 10, line 19, “excised” should be deleted; line 19, after “symbols”, “and the over-determined matrix” should be inserted so as to be consistent with the specification

Claims 11-14 are likewise objected to because of being dependent on an objected claim. Correction is required

Allowable Subject Matter

5. Claims 9-14 would be allowable if amended to overcome the objection set forth above.

6. This application is in condition for allowance except for the formal matters noted above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935).

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Monday-Thursday from 9:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jean B Corrielus/
Primary Examiner
Art Unit 2611